

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1 – NEW ENGLAND**

IN THE MATTER OF

Cold Storage Solutions I, Inc.
310 Kenneth Welch Drive
Lakeville, MA 02347

Proceeding under Sections 113 and
114 of the Clean Air Act

**NOTICE OF VIOLATION,
ADMINISTRATIVE ORDER,
AND
REPORTING REQUIREMENT**

INTRODUCTION

1. The United States Environmental Protection Agency Region 1 (“EPA”) issues this Notice of Violation, Administrative Order, and Reporting Requirement (“NOV,” “AO,” and “RR”) to Cold Storage Solutions I, Inc. (“CSSI” or “Respondent”), for Respondent’s failure to comply with Section 112(r)(1) of the Clean Air Act (“CAA” or “the Act”), 42 U.S.C. § 7412(r)(1), in the handling of ammonia at the company’s Lakeville, Massachusetts cold storage warehouse.

STATUTORY AND REGULATORY AUTHORITY

2. The NOV and AO are issued under the authority of Section 113 of the CAA, 42 U.S.C. § 7413. Section 113(a)(3) of the Act, 42 U.S.C. § 7413(a)(3), provides that EPA may issue an order requiring compliance with the requirements or prohibitions of Subchapter I of the Act (which include, among other requirements, the requirements of Section 112(r), 42 U.S.C. § 7412(r)). A copy of the order must be sent to the relevant State air pollution control agency. An order relating to a violation of Section 112 of the CAA can take effect immediately upon issuance.

3. The RR is issued under the authority of Section 114 of the CAA, 42 U.S.C. § 7414. Section 114(a)(1), 42 U.S.C. § 7414(a)(1), authorizes EPA to require a company to submit such information and conduct such reporting or auditing as EPA may reasonably require to determine compliance with the CAA and carry out the purposes of the CAA.

4. Pursuant to Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1), owners and operators of stationary sources producing, processing, handling, or storing substances listed pursuant to Section 112(r)(3) of the CAA, 42 U.S.C. § 7412(r)(3), or any other extremely hazardous substance, have a general duty to (a) identify hazards which may result from accidental releases of such substances using appropriate hazard assessment techniques; (b) design and maintain a safe facility taking such steps as are necessary to prevent releases; and (c) minimize the consequences of accidental releases that do occur. This section of the CAA is referred to as the "General Duty Clause."

5. The extremely hazardous substances listed pursuant to Section 112(r)(3) include, among others, anhydrous ammonia.

GENERAL ALLEGATIONS

6. Respondent CSSI operates a cold food storage warehouse at 310 Kenneth Welch Drive in Lakeville, Massachusetts (the "Facility").

7. The Facility abuts a railway line, is located within a third of a mile of Interstate Route 495, and is located within 1.5 miles of the downtown of neighboring Middleborough, two elementary schools, and a supermarket.

8. CSSI is a domestic corporation organized under the laws of Massachusetts, with its principal office located in Lakeville, Massachusetts. As a corporation, Respondent is

a “person” within the meaning of Section 302(e) of the Act, 42 U.S.C. § 7602(e), against whom an Administrative Order may be issued under Section 113(a)(3) of the Act, 42 U.S.C. § 7413(a)(3).

9. The Facility is a building or structure from which an accidental release may occur and is therefore a “stationary source,” as defined at Section 112(r)(2)(C) of the CAA, 42 U.S.C. § 7412(r)(2)(C).

10. At all times relevant to the violations alleged herein, Respondent was the “owner or operator” of the Facility, as defined at Section 112(a)(9) of the CAA, 42 U.S.C. § 7412(a)(9).

11. According to delivery receipts obtained from the Occupational Health and Safety Administration, Respondent’s refrigeration system uses approximately 9,000 pounds of anhydrous ammonia. Accordingly, Respondent “stores” and “handles” anhydrous ammonia, which, as indicated in Paragraph 5 above, is an “extremely hazardous substance” subject to the General Duty Clause.

12. Ammonia presents a significant health hazard because it is corrosive to the skin, eyes, and lungs. Exposure to 300 parts per million is immediately dangerous to life and health. Ammonia is also flammable at concentrations of approximately 15% to 28% by volume in air. It can explode if released in an enclosed space with a source of ignition present, or if a vessel containing anhydrous ammonia is exposed to fire. In light of the potential hazards posed by the mishandling of anhydrous ammonia, industry trade associations have issued standards outlining the Recognized and Generally Accepted Good Engineering Practices in the ammonia refrigeration industry. In collaboration with the American National Standards Institute, the International Institute of Ammonia

Refrigeration has issued (and updates) “Standard 2: Equipment, Design, and Installation of Closed-Circuit Ammonia Mechanical Refrigerating Systems,” along with other applicable standards and guidance. Also in collaboration with the American National Standards Institute, the American Society of Heating, Refrigerating and Air-Conditioning Engineers has issued (and updates) “Standard 15: Safety Standard for Refrigeration Systems.” These standards are consistently relied upon by refrigeration experts and are sometimes incorporated into state building and mechanical codes.

13. The Facility’s ammonia refrigeration system (“System”) was installed in 2011, using reused components. The System is a “closed-loop” refrigeration system with components and piping in three connected areas of the Facility: the Machinery Room, where most of the System equipment is located (including the receiver, three compressors, and the recirculator) and which has three Access Doors, an area exterior to the building where the condenser and piping is located, and the freezer warehouse spaces, where the evaporator(s) and associated piping are located.

14. On February 13, 2012, EPA inspectors visited the Facility (“Inspection”) to assess Respondent’s compliance with Section 112(r) of the CAA and with Sections 302–312 of the Emergency Planning and Community Right-to-Know Act (“EPCRA”).

15. During the Inspection of this Facility and three related facilities, EPA requested and received certain documentation pertaining to the System, including the Facility’s emergency response plan. Respondent provided EPA with a document titled, “Anhydrous Ammonia Emergency Response Plan for Cold Storage Solutions,” dated June 19, 2009 (“Plan”).

16. EPA later received copies of EPCRA "Tier 2" forms that CSSI first submitted to the relevant emergency response organizations after the Inspection.

17. The Inspection and EPA's review of subsequently submitted information revealed that Respondent:

- a. Had not conducted an adequate hazard analysis of the System, using appropriate hazard assessment techniques;
- b. Did not have, or have available for EPA review, critical documents and information about the System that would allow Respondent to adequately identify hazards posed by the System and to maintain its equipment. For example, EPA requested, but Respondent failed to provide, a refrigeration process flow diagram, a Piping and Instrumentation Diagram, any other engineering diagrams, and information and calculations regarding the ammonia charge for the System and the ventilation capacity of the Machinery Room;
- c. Had not developed sufficient written operating procedures to govern the proper operation of the System and each of its components;
- d. Had not designed, installed, and operated an adequate ventilation system, ensuring that the Machinery Room had sufficient air sweep to clear it of ammonia fumes in case of emergency. The sole fresh inlet air vent openings were extremely remote (estimated by EPA to be at least 250 feet away), were located in an adjacent warehouse room with a closed door between it and the Machinery Room, and were completely blocked with heavy wood covers that were fastened in place;

- e. Had not designed and operated an air-tight, isolated Machinery Room, in that the northern Access Door was a sliding door rather than a tight-fitting and outward-opening door;
- f. Had not posted ammonia warning signs at each entrance to the Machinery Room or signs displaying a diagram and other information about the System's capacity, operation, alarms, and emergency shutdown process, near the compressor or outside any of the three Machinery Room doors;
- g. Had not labeled the components, pipes (except a single pipe on the ammonia recirculator), or valve systems (except a temporary sign hung on the King Valve);
- h. Had not provided display panels for the Machinery Room and freezer ammonia analyzers that indicate the operational status of the System outside the principal Machinery Room Access Door (only outside the remote northern Access Door);
- i. Did not have the correct Material Safety Data Sheets available for review at the "Right-to-Know" information station;
- j. Had not kept the Machinery Room free of flammable material, in that it contained two drums of new and/or waste oil;
- k. Had not ensured that all components and piping, including the glycol poly-tank, were protected from forklift traffic or other potential impact;
- l. Did not have an eyewash and shower station in, and just outside of, the Machinery Room and did not have the necessary personal protective

equipment to help protect employees in case of ammonia exposure or other emergency;

- m. Did not have windsocks on the roof to assist emergency responders or evacuating personnel in the event of a release at the Facility;
- n. Had not positioned the condenser relief valve discharge above the condenser, painted the condenser piping to prevent corrosion, or provided a “confined space” sign on the condenser’s access door;
- o. Had not installed the main pressure-relief vent pipe in a safe manner. The vent pipe opening was on the side of the building, rather than above roof level. Further, not only was it aimed downwards instead of upwards, it was situated to vent in the general vicinity of both an employee break patio and where critical emergency hookups and connections (fire hose connections, main sprinkler valves, and natural gas shutoff valves) are located;
- p. Had not provided adequate ammonia detectors with associated alarms. There was no ammonia detector in the main pressure-relief header, and a single ammonia detector in the Machinery Room, which was not near the receiver or overpressure vent piping. The Facility’s detectors did not actuate visual and audible alarms at each Machinery Room entrance.
- q. Had not provided emergency shutdown or ventilation switches for the System outside the principal Machinery Room door. The only emergency shutdown and ventilation switches for the System were located outside the northern Access Door, which cannot be considered the Machinery Room’s principal door, given that it is approximately 250 feet away from where the equipment

is located, does not afford any nearby egress to the outside, and is out of normal walking routes;

- r. Did not have handles on the King and other isolation valves, and these valves were not always accessible from permanent work surfaces. The handle for the King Valve was hanging nearby and would need to be retrieved to be used in an emergency. Additionally, the King Valve was only accessible by a ladder over the receiver;
- s. Had not developed an adequate emergency response program, including an up-to-date and accurate emergency action plan that addressed release scenarios based on hazards associated with the design, location, and operation of the Facility. For example, the emergency plan provided to EPA was drafted for another company's operations and only partially updated to reflect the specific conditions at the Facility. The Plan was dated over two years before the Facility opened, and it does not appear to include the Facility in its list of building-specific emergency contacts (only listing primary and alternate contacts for Buildings #1, #2, and #3, which are presumably the three related facilities operated by Respondent's sister companies prior to the opening of the Facility). The Plan erroneously includes several references to itself as being the emergency plan for the company "American Refrigeration." The Plan also severely undercounts the size of the surrounding population (estimating the population within three miles to be 2,500 while EPA estimates indicate it is over 16,000) and neglects to include contact information for officials from the neighboring town of Middleborough even though the

Facility is located near its populous downtown. The Plan also references an evacuation route plan that was not attached, and it inaccurately describes aspects of the Facility, including the relative location of the Machinery Room within the Facility, and the existence of a detector in main relief vent. Additionally, Respondent's failure to submit EPCRA Tier II forms deprived emergency responders of information about the Facility, including the quantity of ammonia in the System and the location of critical equipment and shutoff mechanisms, which would compromise their ability to safely respond to an emergency at the Facility.

NOTICE OF VIOLATIONS

I. FAILURE TO IDENTIFY HAZARDS

18. The allegations in Paragraphs 1 through 17 are hereby realleged and incorporated herein by reference.

19. Pursuant to the General Duty Clause, Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1), owners and operators of stationary sources producing, processing, handling, or storing extremely hazardous substances have a general duty to identify hazards that may result from accidental releases of such substances, using appropriate hazard assessment techniques. The recommended industry practice and standard of care for identifying, analyzing, and evaluating potential hazards associated with ammonia refrigeration systems of this size is to use standard, industry-developed checklists, a "What If" analysis, or a Hazard and Operability study. See, e.g., Int'l Inst. of Ammonia Refrigeration, Ammonia Refrigeration Management Program § 10 (2005) [hereinafter, "IIAR ARM"] (recommending formal hazard reviews and describing methods); U.S.

Envtl. Prot. Agency, Guidance for Implementation of the General Duty Clause Clean Air Act Section 112(r)(1) § 2.3.1 (2000) [hereinafter “EPA GDC Guidance”] (same), available at <http://www.epa.gov/oem/docs/chem/gdcregionalguidance.pdf> (last checked Feb. 6, 2013).

20. As described in Paragraph 17 above, inspectors observed potentially dangerous conditions and management practices at the Facility, including Respondent’s failure to possess basic documentation and information about the System, its unsafe Facility design (including the location of the emergency ventilation and shutdown switches, the poor accessibility of isolation valves, and the dangerous positioning of the pressure-relief discharge), its failure to post critical information on and about the System to facilitate a quick response to releases, and its failure to develop an adequate emergency response plan that accurately reflected conditions at, and potential hazards posed by, the Facility. These deficiencies indicate a failure to adequately identify hazards associated with the release of ammonia at the Facility.

21. By failing to conduct an adequate hazard analysis of the System using appropriate hazard assessment techniques, Respondent failed to identify hazards that may result from accidental releases, as required by the General Duty Clause, Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1).

II. FAILURE TO DESIGN AND MAINTAIN A SAFE FACILITY

22. The allegations in Paragraphs 1 through 21 are hereby realleged and incorporated herein by reference.

23. Pursuant to the General Duty Clause, Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1), owners and operators of stationary sources producing, processing, handling,

or storing extremely hazardous substances also have a general duty to design and maintain a safe facility, taking such steps as are necessary to prevent releases.

Lack of Refrigeration System Documentation

24. As described in Paragraph 17(b), above, Respondent did not have, or have available for EPA review, critical information about the System, its components, and their operation that would allow Respondent to adequately maintain and inspect the System equipment. The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to maintain this, and more, refrigeration system documentation, to help personnel identify hazards posed by the system and to safely maintain the system. See, e.g., IIAR ARM, supra, §§ 3.3 (ammonia inventory documents), 3.4 (flow diagrams), 3.10 (ventilation capacity); Int'l Inst. of Ammonia Refrigeration, Bulletin No. 110: Start-up, Inspection and Maintenance of Ammonia Mechanical Refrigerating Systems §§ 4 (1993) [hereinafter "IIAR Bull. 110"] (recommending retention of "[a]ll essential records relevant to the system....," including piping and instrumentation diagrams, other types of engineering diagrams, and refrigeration circuit and ventilation flow diagrams), 5.6 (total refrigerant charge).

Inadequate Ventilation System Design and Operation

25. As described in Paragraph 17(d), above, Respondent had not designed, installed, and operated an adequate ventilation system, including the failure to have sufficient air sweep in the Machinery Room to clear it of ammonia fumes in case of emergency. The recommended industry practice and standard of care for ammonia refrigeration systems of this size includes designing and installing a ventilation system based on calculations and other analysis of the ammonia system and Machinery Room to determine the air

sweep necessary for safe operation in normal conditions and to clear ammonia fumes in case of emergency. See, e.g., Am. Nat'l Standards Inst./Int'l Inst. of Ammonia Refrigeration, Standard 2-2008: Equipment, Design, and Installation of Closed-Circuit Ammonia Mechanical Refrigerating Systems §§ 13.3.8 & .9 (2010 ed.) [hereinafter "IIAR 2-2008 (2010 ed.)"] (normal and emergency ventilation capacities); Am. Nat'l Standards Inst./Am. Soc'y of Heating, Refrigerating and Air-Conditioning Eng'rs, Standard 15-2010: Safety Standard for Refrigeration Systems § 8.11.5 (2010) [hereinafter "ASHRAE 15-2010"]. The openings for inlet air should be near the machinery, and they should be sufficient to allow the inlet air to replace that exhausted. See, e.g., IIAR 2-2008 (2010 ed.), supra, § 13.3.3; ASHRAE 15-2010, supra, § 8.11.4.

26. Also, as described in Paragraph 17(e), above, Respondent failed to ensure that the Machinery Room was designed to be air-tight, in that the northern Access Door was a sliding door rather than a tight-fitting and outward-opening door. The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to ensure that no air can flow from the Machinery Room to other parts of the building, to minimize the spreading of ammonia during any leak. Each Machinery Room door should have tight-fitting doors that open outward and that self-close if they open into building space. See, e.g., IIAR 2-2008 (2010 ed.), supra, §§ 13.1.1.6, 13.1.10.1; ASHRAE 15-2010, supra, §§ 8.11.2, 8.11.7.

Inadequate Signs and Labels

27. As described above in Paragraph 17(f), at the time of the Inspection, Respondent did not have sufficient signs to adequately identify many aspects of the Facility. None of the three Access Doors to the Machinery Room had, nor did the

interior of the Machinery Room itself have, any signs notifying of the presence of ammonia inside, restricting entry to authorized personnel, or containing information about the System's operation, alarms, or emergency shutdown process. The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to post signs warning of the presence of ammonia and restricting entry to authorized personnel at each entrance to the Machinery Room, see, e.g., IIAR 2-2008 (2010 ed.), supra, § 13.1.2.4; ASHRAE 15-2010, supra, §§ 8.11.8, 11.2.4, and to post other signs with information about the operation of the System, including signs explaining the alarms and the emergency shutdown process, outside the principal Machinery Room door. See, e.g., IIAR 2-2008 (2010 ed.), supra, §§ 13.1.10.4 (systems need "informative signs, emergency signs, charts and labels in accordance with [National Fire Protection Association] 704"), 13.2.4.1 (alarms), App. L (summarizing signage and providing examples); ASHRAE 15-2010, supra, §§ 8.11.2.1 (meaning of alarms at each entrance), 11.2.1 (installer name and address, amount and kind of refrigerant, amount and kind of lubricant, and field test pressure applied), 11.7 (emergency shutdown procedures and precautions in case of a breakdown or leak); Int'l Inst. of Ammonia Refrigeration, Bulletin No. 109: IIAR Minimum Safety Criteria for a Safe Ammonia Refrigeration System §§ 4.10.4 (1997) [hereinafter "IIAR Bull. 109"] (general system information), 4.10.6 (evacuation plan with activation responsibility clearly indicated).

28. Also, as described above in Paragraph 17(g), at the time of the Inspection, the System components, pipes, and valve systems were unlabeled, with the exception of one pipe on the ammonia recirculator and a temporary sign on the King Valve. The recommended industry practice and standard of care for ammonia refrigeration systems

of this size is to label all system components, pipes, and valve systems. See, e.g., IIAR 2-2008 (2010 ed.), supra, § 10.5 (pipes need to be marked with physical state of refrigerant, relative pressure level, and direction of flow); ASHRAE 15-2010, supra, §§ 9.3 (pressure vessels), 9.12.6 (stop valves), 11.2.2 (piping, valves, and switches for refrigerant flow, ventilation, and compressor); IIAR ARM, supra, § 4.2 (listing the labeling of lines, emergency isolation valves, and safety systems as a part of writing operating procedures); IIAR Bull. 109, supra, §§ 4.1.1 (compressor nameplate information), 4.3.1 (heat exchanger and pressure vessel nameplates), 4.3.7 (same), 4.7.6 (all piping needs attached markers indicating the use of the pipe and direction of flow). See generally, Int'l Inst. of Ammonia Refrigeration, Bulletin No. 114: Guidelines for Identification of Ammonia Refrigeration Piping and System Components (1991) [hereinafter "IIAR Bull. 114"] (all piping should be identified with physical state of the refrigerant, the relative pressure level, and the direction of flow; all components of the system should be uniformly identified as to the name of the equipment and a pressure level designation). See also IIAR Bull. 109, supra, § 4.1.2 (warning against operating a compressor without a nameplate unless its limitations have been verified).

Inadequate Basic Safety Practices

29. As described above in Paragraph 17(j), at the time of the Inspection, Respondent had not maintained the Machinery Room to be clear and free of combustible storage. The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to store no flammables in machine rooms. See, e.g., IIAR 2-2008 (2010 ed.), supra, § 13.1.3.1.

30. Also, as described above in Paragraph 17(k), at the time of the Inspection, Respondent had not ensured that all components and piping were protected from forklift traffic or other impact. The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to safeguard piping, controls, and other refrigeration equipment to minimize the chance of accidental damage by external sources such as forklifts. See, e.g., ASHRAE 15-2010, supra, § 11.1; IIAR Bull. 109, supra, § 4.4.2, 4.7.3.

31. Also, as described above in Paragraph 17(l), at the time of the Inspection, Respondent had failed to provide the necessary eyewash and shower stations and personal protective equipment to protect employees in case of ammonia exposure or other emergency. The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to have eyewash and shower stations inside the Machinery Room and just outside its exit. See, e.g., IIAR 2-2008 (2010 ed.), supra, § 13.1.6; IIAR Bull. 109, supra, § 4.10.10. It is also to have a self-contained breathing apparatus outside but nearby the Machinery Room, with a second apparatus also available. IIAR Bull. 109, supra, § 4.10.11.

32. Additionally, as described above in Paragraph 17(n), at the time of the Inspection, Respondent had failed to paint the piping associated with the condenser to prevent corrosion. The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to paint uninsulated piping with a rust preventive paint. See, e.g., IIAR Bull. 109, supra, § 4.7.4.

Inadequate Emergency Design and Mechanisms

33. As also described above in Paragraph 17(n), at the time of the Inspection, Respondent had not ensured that the condenser relief valve discharge was raised above the condenser. The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to ensure that the discharge of a condenser relief valve is positioned above the level of any liquid refrigerant and away from the location of any personnel servicing the equipment. See, e.g., IIAR 2-2008 (2010 ed.), supra, § 11.3.6.4; ASHRAE 15-2010, supra, §§ 9.4.8, 9.7.8; IIAR Bull. 109, supra, § 4.9.6.

34. Also, as described above in Paragraph 17(o), at the time of the Inspection, the relief header piping was at roof level and was aimed downwards in the general vicinity of an employee break patio and the location of critical emergency mechanisms. The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to raise the relief header pipe at least fifteen feet above the adjoining surface level and orient it to point up and away from where any people, including emergency responders, may be nearby. See, e.g., IIAR 2-2008 (2010 ed.), supra, §§ 11.3.6.3 & .4; ASHRAE 15-2010, supra, § 9.7.8.

35. As described above in Paragraph 17(p), at the time of the Inspection, Respondent had not provided adequate ammonia detectors with associated alarms. The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to install at least two ammonia detectors in the Machinery Room. See, e.g., IIAR 2-2008 (2010 ed.), supra, § 13.2. The detectors should be placed where leaked ammonia is likely to concentrate. See, e.g., id.; ASHRAE 15-2010, supra, § 8.11.2.1. The detectors should also actuate visual and audible alarms inside the Machinery Room

and at each of its entrances. See, e.g., IIAR 2-2008 (2010 ed.), supra, § 13.2.1.2; ASHRAE 15-2010, supra, § 8.11.2.1.

36. Also, as described above in Paragraph 17(q), at the time of the Inspection, Respondent had not provided emergency shutdown or ventilation switches for the System outside the principal Machinery Room door. The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to provide clearly marked emergency shutdown and ventilation switches at the principal Machinery Room door (and, preferably, all access doors). See, e.g., IIAR 2-2008 (2010 ed.), supra, §§ 13.1.13.2 (shutdown), 13.3.11 (ventilation).

37. Additionally, as described above in Paragraph 17(r), at the time of the Inspection, Respondent had not installed handles on the King and other isolation valves, and these valves were not always accessible from permanent work surfaces. Both of these situations would impede quick access and operation of these valves, which can be used to shut off the flow of ammonia throughout the System, in an emergency. The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to have isolation valves, including the King Valve, readily operable, either directly or via a chain, from a permanent work surface. See, e.g., id. § 13.1.2.3; IIAR Bull. 109, supra, § 4.10.3.

38. Therefore, by failing to have (a) appropriate refrigeration system documentation; (b) adequate ventilation system design and operation; (c) adequate signs and labels; (d) adequate basic safety practices; and (e) adequate emergency design and mechanisms, Respondent failed to design and maintain a safe facility, as required by the General Duty Clause, Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1).

III. FAILURE TO MINIMIZE THE CONSEQUENCES OF ACCIDENTAL RELEASES THAT DO OCCUR

39. The allegations in Paragraphs 1 through 38 are hereby realleged and incorporated herein by reference.

40. Pursuant to the General Duty Clause, Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1), owners and operators of stationary sources producing, processing, handling, or storing extremely hazardous substances have a general duty to minimize the consequences of any accidental releases of anhydrous ammonia that do occur.

41. As described above in Paragraph 17(s), at the time of the Inspection, Respondent did not have an adequate emergency response program, including an up-to-date emergency action plan that addressed release scenarios based on hazards associated with the design, location, and operation of the Facility. The emergency plan provided to EPA was not fully tailored to reflect the specific conditions at the Facility and so could not adequately address the likely consequences of an accidental release. The recommended industry practice and standard of care for ammonia refrigeration systems of this size is to develop an up-to-date, facility-specific emergency action plan that accurately describes the facility and the potentially affected population. Such a plan should include, among other items: types of evacuation, evacuation procedures and routes, procedures for employees who remain to maintain critical operations, procedures for accounting for evacuated employees, any employee rescue and medical duties, and means for reporting emergencies. See, e.g., IIAR ARM, § 7. An adequate emergency response program should also identify procedures for responding to an ammonia release, including shutting the system down, starting emergency ventilation, and coordinating with all relevant off-site emergency responders. See, e.g., id.

42. In addition, the allegations in paragraphs 25 through 29, 31, and 33 through 37 describe deficiencies that not only constitute a failure to design and maintain a safe facility, but also reflect a failure to minimize the consequences of any accidental release of ammonia. Each of these shortcomings could exacerbate the negative effects of any release of ammonia that does occur at the Facility.

43. Accordingly, by failing to develop and implement an adequate emergency response plan based on the specific design and operation of the Facility, failing to have adequate ventilation system design and operation, failing to have adequate signs and labels posted throughout the Facility, failing to have certain basic safety practices in place, and failing to provide adequate emergency design and mechanisms for the Facility, Respondent violated the requirement to minimize the consequences of any accidental release of anhydrous ammonia that does occur, as required under the General Duty Clause, Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1).

ADMINISTRATIVE ORDER

44. **As soon as possible, but no later than thirty (30) days after the effective date of this AO**, Respondent shall i) engage a third-party ammonia refrigeration system expert ("Refrigeration Expert") to help conduct the work required by this AO and ii) submit the Refrigeration Expert's resume and qualifications to EPA.

45. **As soon as possible, but no later than sixty (60) days after the effective date of this AO**, Respondent shall submit a work plan and schedule to correct any of the deficiencies alleged above in Paragraphs 18 through 43 that it has not already corrected. This schedule and work plan, once approved by EPA, shall be enforceable under this AO.

All work must be completed as expeditiously as practicable, but in no event longer than one (1) year after the effective date of this AO. Specifically:

- a. Respondent shall conduct a hazard analysis in accordance with Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1), for the System, using appropriate hazard assessment techniques, including as described in Paragraph 19. The hazard analysis should indicate its date of completion. Guidance for conducting such hazard analysis is available in IIAR publications, such as the Ammonia Refrigeration Management Program, and the EPA GDC Guidance.
- b. Respondent shall acquire, create, maintain, and provide to EPA the critical documents and information about the System discussed in Paragraphs 17(b) and 24, above, ensuring that any diagrams reflect the actual, “as-built” design of the Facility. Indicate the date each document was acquired or created.
- c. Evaluate, design, install, and operate an adequate ventilation system, including by ensuring that the Machinery Room has sufficient air sweep necessary for normal operation and to clear it of ammonia fumes in case of emergency. Ensure that the ventilation system addresses the deficiencies discussed in Paragraphs 25 and 26, above, and is otherwise consistent with industry standards and applicable building codes. See generally IIAR 2-2008 (2010 ed.), supra, § 13.3; see also ASHRAE 15-2010, supra, §§ 8.11.3–.7, 8.12(h); IIAR Bull. 109, supra, § 4.8.1.
- d. Post all necessary signs in the Machinery Room, outside the Machinery Room Access Doors, and at any other appropriate locations in the Facility, including those identified in Paragraph 27, above, among any others.

- e. Label all components, pipes, pipe covering, and valve systems, including as described in Paragraph 28, above, among any others. See IIAR ARM, supra, § 3.12 (describing an operator's options when components are missing nameplates).
- f. Employ the basic safety practices discussed in Paragraphs 29 through 32 by clearing the Machinery Room of combustible storage, protecting all components and piping from forklift traffic or other impact, providing the necessary personal protective equipment and eyewash stations to protect employees in case of exposure or other emergency, and painting the condenser piping to prevent corrosion.
- g. Make needed emergency design changes, including as described in Paragraphs 33 through 37 above, by installing appropriate condenser relief discharge and main relief header vent piping, additional ammonia detectors, emergency shutdown and ventilation switches, and isolation valve handles and permanent access platforms. The detectors should actuate monitored alarms, electrical shutdown, and both normal and emergency ventilation. See, e.g., IIAR 2-2008 (2010 ed.), supra, §§ 13.2, 13.3.10.1.

46. **No later than one year after the effective date of this AO**, Respondent shall submit documentation of its correction of the deficiencies alleged above in Paragraphs 18 through 43, whether corrected before or after the date of this AO. Such documentation should include a narrative description of the actions taken, the dates the action was taken, and any relevant supporting documentation. Such documentation includes, for example: copies of diagrams and documents, information about operating parameters, maintenance

logs, calculations, and photographs (of signs, appropriately-labeled refrigeration components, pipes, and newly installed equipment).

47. Notice: Respondent shall submit all notices, schedules, work plans, analyses, certification, and documentation required by this order to:

Leonard B. Wallace IV, Enforcement Officer
RCRA, EPCRA, and Federal Programs Unit (SER)
Office of Environmental Stewardship
EPA Region 1
Mailcode: OES05-1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

REPORTING REQUIREMENT

48. In addition to the compliance documentation required by Paragraph 46 above, pursuant to Section 114(a)(1) of the CAA, 42 U.S.C § 7414(a)(1), Respondent shall submit the following information, audits, and reports to the EPA staff listed in Paragraph 47, above:

a. **Within sixty (60) days of the effective date of this NOV, AO, and RR:**

i. In addition to providing the documents described in Paragraph 24, above, and Paragraph 45(b) of the AO, also provide an itemized list of any additional “essential records relevant to the system” in Respondent’s possession, *including the date the document was acquired or created*. See IIAR Bull. 110, supra, § 4. Guidance regarding the “essential records relevant to the system” is available from IIAR publications, including from Section 3 of the Ammonia Refrigeration Management Program and Section 4 of Bulletin 110. For example, this documentation includes, among other information: an equipment list for each vessel and/or component in the

System, including manufacturer's information and recommendations about safe operating parameters; documents, diagrams, and calculations regarding the ammonia charge, safety systems employed, pressure relief for the System and for each individual vessel and/or component, and Machinery Room ventilation; and information about the codes or standards that apply to the System.

- ii. Provide copies of any Standard Operating Procedures for the System in effect, *including the date(s) on which they were created and put into effect.* Guidance regarding the necessary written operating procedures can be found in IIAR publications and in EPA's GDC Guidance. See, e.g., IIAR ARM, supra, § 4.2; IIAR 2-2008 (2010 ed.), supra, § 14.2.1; EPA GDC Guidance, supra, § 2.3.2.b. See also IIAR Bull. 110, supra, § 5.2.2.
- iii. Provide any documents setting forth information or calculations in Respondent's possession regarding ventilation at the Facility. This includes information about methods of activation and capacity, and supporting documentation such as engineering diagrams that served as the basis for calculations, for both normal and emergency ventilation situations. *Indicate the date(s) on which the documents were created or performed.*
- iv. Provide records pertaining to the employee training program in effect from the commencement of operation of the System, through the date of this NOV, AO, and RR, including the agenda or topics covered, and records indicating the names of employees who received the training *and the dates on which the training was performed.*

- v. Provide a copy of the building permit that authorized construction of the System.
 - vi. Provide a description of the steps taken by Respondent to coordinate response procedures with local emergency planning and response agencies.
- b. Within ninety (90) days of the effective date of this NOV, AO, and RR:**
- i. Provide any available documentation: showing that that the System's relief valves (including on the pump recirculator, screw compressor, floor warming vessel, receiver, and condenser) are of sufficient size, supported by the necessary pressure calculations; verifying that ammonia analyzer ranges and alarm settings conform to current regulatory concentration limits; verifying that a self-closing valve is in place for oil draining; and verifying that a check valve is installed on the ammonia charging valve on the high pressure receiver.
 - ii. Provide any available information and records documenting Respondent's mechanical integrity ("MI") program at the Facility from January 1, 2008 until the present, including procedures and schedules for the inspection, testing, and preventative maintenance ("ITPM") of the System, and retaining records thereof, including operational logsheets and ITPM results. Guidance can be found in IIAR publications, such as sections 4, 5, and 6 of Bulletin 110. See also IIAR 2-2008 (2010 ed.), supra, § 13.3.12; ASHRAE 15-2010, supra, § 11.6.3; IIAR ARM, supra, §§ 4.3, 5 & App. 5.1.
- c. Within 120 days of the effective date of this NOV, AO, and RR:**

- i. Provide EPA with an estimate of the cost savings realized, if any, by failing to comply with the General Duty Clause since January 1, 2008. Include all costs, including, but not limited to, costs associated with contractor fees, equipment upgrades, paperwork, and facility upgrades.
- ii. Provide information on Respondent's net worth and annual sales for the fiscal years 2008 through 2012.
- iii. Provide EPA with a list, including dates and supporting documentation for, any changes made to the Facility or its management or operation following the Inspection, whether made independently or in response to the Inspection.

49. Respondent may assert a business confidentiality claim covering part or all of the information requested, in the manner described by 40 C.F.R. § 2.203(b). Not all business information is entitled to confidential treatment. To properly qualify for such a claim, the information must meet the substantive criteria outlined in 40 C.F.R. § 2.208. Information covered by such a claim will be disclosed by EPA only to the extent, and by means of the procedures, set forth in 40 C.F.R. Part 2, Subpart B. If no such claim accompanies the information when EPA receives it, EPA may make the information available to the public without further notice to you.

ENFORCEMENT

50. Be advised that issuance of this NOV, AO, and RR does not preclude EPA from electing to pursue any other remedies or sanctions authorized by law that are available to address these and other violations. This NOV, AO, and RR does not resolve Respondent's liability for past violations of the Act or for any violations that continue from the date of this NOV, AO, and RR up to the date of compliance.

51. At any time after the issuance of this NOV, AO, and RR, EPA may take any or all of the following actions: issue a further order requiring compliance with the Act; issue an administrative penalty order for up to \$37,500 per day for each violation; or bring a civil or criminal action seeking an injunction and penalties. See Sections 113(a)–(d) of the CAA, 42 U.S.C. §§ 7413(a)–(d); 40 C.F.R. Part 19; and 73 Fed. Reg. 75,340–46 (Dec. 11, 2008) (Clean Air Act penalties raised from \$25,000 to \$32,500 for violations occurring from March 15, 2004 to January 12, 2009, and to \$37,500 for violations occurring after January 12, 2009). Be advised that Section 113(e)(2) of the Act, 42 U.S.C. § 7413(e)(2), contains provisions that affect the burden of proof with respect to violations which continue following issuance of a Notice of Violation.

52. Neither EPA nor the United States, by the issuance of this NOV, AO, and RR, assumes any liability for any acts or omissions by Respondent or Respondent's employees, agents, contractors, or consultants engaged to carry out any action or activity pursuant to this NOV, AO, and RR; nor shall EPA or the United States be held as a party to any contract entered into by Respondent or Respondent's employees, agents, contractors, or consultants engaged to carry out the requirements of this NOV, AO, and RR.

EFFECTIVE DATE AND APPLICABILITY

53. The NOV, AO, and RR shall take effect thirty (30) days from receipt. The NOV, AO, and RR shall apply to Respondent, its officers, agents, servants, employees, successors and assigns, and to all persons, firms, and corporations acting under, through or for Respondent. This action is not subject to Office of Management and Budget review under the Paperwork Reduction Act, 44 U.S.C. §§ 3501–3521.

54. If Respondent has any questions regarding this NOV, AO, and RR, please contact Len Wallace at (617) 918-1835, or have your legal counsel contact Christine Foot, Enforcement Counsel, at (617) 918-1333. Respondent may request an opportunity to confer with EPA about this NOV, AO, and RR by contacting Len Wallace or Christine Foot at the phone numbers listed above within fourteen (14) days of receiving this NOV, AO, and RR.

Susan Studlien

Susan Studlien, Director
Office of Environmental Stewardship
U.S. Environmental Protection Agency
Region 1 – New England

03/21/13

Date